Appendix E Environmental Commitments Record

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Task and Brief Description	Responsible Branch, Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
HUMAN ENVIRONMENT									
Land Use									
LU-1 Prior to the commencement of construction activities above or within the Los Angeles-San Diego rail corridor (LOSSAN rail corridor), the Orange County Transportation Authority (OCTA) will coordinate with Metrolink, Amtrak, the Union Pacific Railroad, the BNSF Railway, and any other passenger or freight rail operators using the LOSSAN rail corridor to minimize railroad service delays associated with such construction activities.	OCTA	Prior to construction							
LU-2 During property acquisition, in compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), an application will be submitted to the City of Irvine, the City of Tustin, and the City of Santa Ana to obtain parking and/or landscaping variances for properties where the project would reduce the number of off-street parking stalls and/or the required amount of landscaping below the applicable municipal off-street parking and/or landscaping requirements.	OCTA,	During property acquisition							
LU-3 During final design, design modifications that will minimize or avoid the loss of parking stalls on affected properties will continue to be researched. If such losses cannot be minimized or avoided, affected property owners will be compensated by redesigning and reconfiguring parking areas to recoup some or all of the lost parking stalls, if feasible, within existing municipal codes for setbacks, landscaping, and other site requirements. If those efforts to reduce off-street parking impacts have been exhausted and the project still results in the loss of parking stalls, all affected property owners will be compensated for the loss of parking stalls on their properties in compliance with the Uniform Act.	OCTA Project Engineer	During final design							
Growth									
No mitigation is required.									
Community Impacts									
REL-1 Property acquisition will be conducted in compliance with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) (Public Law 91-646, 84 Statutes 1894). The Uniform Act mandates that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced by federal or federally assisted projects. The Uniform Act provides for uniform and equitable treatment by federal or federally assisted programs of persons displaced from their homes, businesses, or farms and establishes uniform and equitable land acquisition policies.	OCTA	During property acquisition							
Utilities and Emergency Services									
UES-1 During final design, utility relocation plans will be prepared in consultation with the affected utility providers/owners for those utilities that will need to be relocated, removed, or protected in-place. If relocation is necessary, the final design will focus on relocating utilities within the State right of way (ROW) or other existing public ROWs and/or easements. If relocation outside of existing ROWs or additional public ROWs and/or easements required for the project are necessary, the	OCTA Project Engineer	During final design							

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	final design will focus on relocating those facilities to minimize environmental impacts as a result of project construction and ongoing maintenance and repair activities. The utility relocation plans will be included in the project specifications. Prior to and during construction, the contractor will implement the components of the utility relocation plans provided in the project specifications. Prior to utility relocation activities, the contractor will coordinate with affected utility providers regarding potential utility relocations and inform affected utility users in advance about the date and timing of potential service disruptions.	OCTA Project Engineer Construction Contractor	Prior to and during construction Prior to utility relocation activities							
UES-2	Prior to and during construction, the contractor will coordinate all temporary mainline, ramp, and arterial roadway closures and detour plans with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times, including the identification of alternative routes for emergency vehicles and routes across the construction areas that are developed in coordination with the affected agencies.	Construction Contractor	Prior to and during construction							
Traffic and Transportation/Pedestrian and Bicycle Facilities										
T-1	**Transportation Management Plan.** A Transportation Management Plan (TMP) will be developed during final design and will be implemented by the construction contractor during project construction to address short-term traffic circulation and access effects during project construction. Specifically, during final design, a qualified traffic engineer will prepare the TMP, which will include, but not be limited to, the elements described below to reduce traveler delays and enhance traveler safety during project construction. The TMP will be approved by the Orange County Transportation Authority (OCTA) and the California Department of Transportation (Caltrans) District 12 during final design and will be incorporated into the plans, specifications, and estimates. The purpose of the TMP is to address the short-term traffic and transportation impacts during construction of the project. The objectives of the TMP are to: • Maintain traffic safety during construction • Effectively maintain an acceptable level of traffic flow throughout the transportation system during construction • Minimize traffic delays and facilitate reduction of the overall duration of construction activities • Minimize detours and impacts to pedestrians and bicyclists • Foster public awareness of the project and related transportation and traffic impacts • Achieve public acceptance of construction of the project and the TMP measures	OCTA Project Engineer, Construction Contractor	During final design and project construction							

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The TMP will contain, but not be limited to, the following elements intended to reduce traveler delay and enhance traveler safety. These elements will be refined during final design and incorporated in the TMP for implementation during project construction. • **Public Information/Public Awareness Campaign (PAC).** The primary goal of the PAC is to educate motorists, business owners and operators, residents, elected officials, and government agencies about project construction activities and associated transportation impacts. The PAC is an important tool for reaching target audiences with important construction project information and is anticipated to include, but not be limited to: • Rideshare information • Brochures and mailers • Media releases • Paid advertising • Public meetings • Broadcast fax and email services • Telephone hotline • Notification to targeted groups • Commercial traffic reporters/feeds • Project website • Visual information • Local cable television and news • Internet postings	OCTA Project Engineer, Caltrans Resident Engineer, Construction Contractor	During final design and prior to and during project construction							
• **Traveler Information Strategies.** The effective implementation of a traveler information system during construction is crucial for enabling motorists to make informed decisions about their travel plans and options with real-time traffic information. That real-time traffic information will include information on mainline, ramp, lane, and arterial closures and detours; travel delays; access to adjacent land uses; “businesses are open” signing; and other signing and information to assist travelers in navigating through, around, and in construction areas. Key components of the traveler information system are anticipated to include, but not be limited to: • Fixed and portable changeable message signs • Ground-mounted signs • Automated work zone information systems • Highway advisory radio • Lane closure website • Caltrans highway information network • Bicycle and pedestrian information • Commute Smart website	OCTA Project Engineer, Caltrans Resident Engineer, Construction Contractor	During final design and prior to and during project construction							

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• **Incident Management.** Effective incident management will ensure that incidents in and near construction areas are cleared quickly and do not result in substantial delays for the traveling public in the vicinity of work zones. Incident management includes, but is not limited to: • Caltrans Construction Zone Enhanced Enforcement Program (COZEEP) • Freeway Service Patrol • Traffic surveillance stations • Caltrans Transportation Management Center • Traffic management team • Towing services	OCTA Project Engineer, Caltrans Resident Engineer, Construction Contractor	During final design and prior to and during project construction							
• **Construction Strategies.** The TMP will include procedures to lessen the transportation effects of project-related construction activities and will include, but not be limited to, consideration of the following: • Conflicts with other projects and special events • Construction staging alternatives • Mainline lane closures • Local road closures • Ramp and connector closures (no two consecutive on- or off-ramps in the same direction would be closed at the same time) • Pedestrian and bicycle detours and facility closures • Traffic control improvements • Coordination with other projects • Project phasing • Traffic screens • Truck traffic restrictions	OCTA Project Engineer, Caltrans Resident Engineer, Construction Contractor	During final design and prior to and during project construction							
• **Demand Management.** Temporarily reducing the overall traffic volumes on the project segment of State Route 55 (SR-55) could reduce the short-term adverse effects of construction on traffic operations. The TMP will include, but not be limited to, the following strategies that could reduce vehicular demand in the study area during project construction: • Rideshare incentives • Transit services • Shuttle services • Variable work hours and telecommuting • Park-and-ride lots	OCTA Project Engineer, Caltrans Resident Engineer, Construction Contractor	During final design and prior to and during project construction							
• **Alternate Route Strategies.** The TMP will provide strategies for notifying motorists, pedestrians, and bicyclists of planned construction activities. This notification will allow travelers to make informed decisions about their travel plans, including the consideration of possible alternate routes. The TMP will finalize the detour and alternate routes for motorists, specifically addressing the following:	OCTA Project Engineer, Construction Contractor	During final design and prior to and during project construction							

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	• Mainline lane closures • Ramp/connector closures • Local road closures • Temporary highway or shoulder use • Local street improvements • Temporary detours and closures of bicycle and pedestrian facilities • Traffic signal coordination The design/build contractor will implement the measures in the TMP during construction.									
T-2	Prior to and during construction, the construction contractor will coordinate with OCTA Central Communications regarding all temporary mainline ramp and arterial closures and detour plans that would affect OCTA bus routes to minimize temporary delays to OCTA bus service.									
T-3	If Alternative 3 or 4 is selected for implementation, the following improvements will be included in the design of the selected alternative, to be constructed as part of that alternative by 2020 (Opening Year): • **Northbound I-5 On-Ramp/Newport Avenue:** Installation of a traffic signal at this intersection.	OCTA Project Engineer	During final design							

T-4	If Alternative 3 or 4 is selected for implementation, the following improvements will be included in the design of the selected alternative, to be constructed no later than 2040 (Design Year):
	
	• **Southbound I-5 Off-Ramps/Newport Avenue:** The following improvement would be implemented at this intersection:
	  • Re-striping the shared left-through lane at the eastbound approach to be a shared left/through/right lane.
	• **Southbound I-5 On-Ramps/Red Hill Avenue:** The following improvement would be implemented at this intersection:
	  • Re-striping the northbound approach to provide a second right-turn lane to the southbound I-5 on-ramp
		OCTA Project Engineer	During final design						

Visual/Aesthetic										
VIS-1	Architectural treatments and features will be included in the final project design to minimize the loss of, and improve the visual quality on, the project segment of State Route 55 (SR-55). The architectural treatments will be developed for retaining walls and noise barriers consistent with the *Master Plan of Freeway and Transit Corridor Enhancements: Creating a Quality Environment along Orange County's Transportation Network.* All wall architectural treatments will be submitted to the California Department of Transportation (Caltrans) District Landscape Architect for review and approval. During construction, the construction contractor will implement the architectural treatments as shown in the project specifications.	OCTA Project Engineer, Landscape Architect Caltrans Resident Engineer, Construction Contractor	During final design During construction							

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VIS-2 During final design, a landscape architect will prepare a Landscape Plan to address landscape treatment within the State right of way (ROW) along the project segment of SR 55. The Landscape Plan will include, but not be limited to, the following: • Identifying/defining the minimum standards for providing landscaping: available land, no conflicts with traffic operations and safety, safe access for maintenance and trash removal, and access to irrigation and water if needed. • Identifying landscaping and hardscape concepts and materials to maintain or improve the visual character of the existing landscaping in the SR-55 ROW from south of Interstate 5 (I-5) to north of Interstate 405 (I-405), including the mainline, ramps, and along noise barriers and retaining walls. The hardscape concepts and materials will be consistent with the *Master Plan of Freeway and Transit Corridor Enhancements: Creating a Quality Environment along Orange County's Transportation Network*. • Incorporating applicable procedures and requirements in the Caltrans *Highway Design Manual,* Section 902.1, Planting Guidelines (November 2001 or newer). • Using drought-resistant plants and xeric (adapted to arid conditions) landscaping techniques. • Providing low-maintenance, erosion-control groundcover species and low-height shrubs in the palette to preserve existing views and prevent erosion. • Providing landscaping as soon as possible in the construction process to minimize bare soil and potential erosion effects. • Ensuring that the landscape plant palette conforms with adopted Caltrans standard specifications. • Replacing landscaping on parcels used for temporary construction easements (TCEs). The Landscape Plan will require coordination with the owner of each TCE regarding replacement of landscaping removed from the property as part of the project construction activities and replacement of that landscaping to its original or better condition after completion of the construction activities requiring the use of that land for TCEs. • The Landscape Plan will be submitted to the Caltrans District Landscape Architect for review and approval. • During construction, the construction contractor will implement the provisions of the approved Landscape Plan as shown in the project specifications.	OCTA Project Engineer, Landscape Architect, Construction Contractor	During final design and construction							
Cultural Resources									
CR-1 **Discovery of Cultural Materials.** If cultural materials are discovered during site preparation, grading, or excavation, the construction contractor will divert all earthmoving activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find. At that time, the Caltrans District 12 Environmental Branch Chief or the	Caltrans Resident Engineer, Construction Contractor/Caltrans Archaeologist	During construction and post construction (if necessary)	No						

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	District 12 Native American Coordinator will be coordinated with to determine appropriate course of action.									
CR-2	**Discovery of Human Remains.** If human remains are discovered during site preparation, grading, or excavation, State Health and Safety Code Section 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie remains, and that the County Coroner will be contacted. Pursuant to California Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission, which will then notify the Most Likely Descendant (MLD). At that time, the Caltrans District12 Environmental Branch Chief or the District 12 Native American Coordinator will be contacted so they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of California PRC 5097.98 are to be followed as applicable.	Caltrans Resident Engineer, Construction Contractor, Caltrans Archaeologist	During construction and post construction (if necessary)	No						
PHYSICAL ENVIRONMENT										
Hydrology and Floodplains										
No mitigation is required.										
Water Quality and Storm Water Runoff										
WQ-1	The Project will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit, Statewide Storm Water Permit, Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation Order No. 2012-0011-DWQ, NPDES No. CAS000003 (Caltrans Permit) or any subsequent permit.	OCTA Project Engineer	During final design and operation							
WQ-2	Construction activities will comply with the provisions of the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2009-009-DWQ, as amended by 2010-0014-DWQ; NPDES No. CAS000002, or any subsequent permit. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the appropriate Risk Level. The SWPPP will identify the sources of pollutants that may affect the quality of storm water and include Best Management Practices (BMPs) to control the pollutants, such as sediment control, catch basin inlet protection, construction materials management and non-storm water BMPs. All work will conform to the Construction Site BMP requirements specified in the latest edition of the *Storm Water Quality Handbooks: Construction Site Best Management Practices Manual* to control and minimize the impacts of construction and construction related activities, material and pollutants on the watershed. These include, but are not limited to temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-storm water BMPs.	Construction Contractor	Prior to and during construction							

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WQ-3	Caltrans-approved Design Pollution Prevention BMPs will be implemented to the Maximum Extent Practicable (MEP) consistent with the requirements of the Caltrans Permit and Project Planning and Design Guide. Design Pollution Prevention BMPs include preservation of existing vegetation, slope/surface protection systems (permanent soil stabilization and replanting of vegetation) dikes, overside drains, drainage inlets, and concentrated flow conveyance systems such as ditches, berms, and biofiltration strips and swales.	OCTA Project Engineer	During final design and operation							
WQ-4	Caltrans-approved Treatment BMPs will be implemented to the MEP consistent with the requirements of the Caltrans Permit and Project Planning and Design Guide. Treatment BMPs may include biofiltration strips, biofiltration swales, and an infiltration basin.	OCTA Project Engineer	Prior to and during construction							
WQ-5	If dewatering is required during construction, construction site dewatering comply with one of two orders, or any subsequent orders, that apply to groundwater discharges to surface waters within the Santa Ana Region depending on the nature of the groundwater. Order No. R8-2009-0003 (NPDES No. CAG998001) covers general waste discharge requirements for discharges to surface waters that pose an insignificant (de minimus) threat to water quality within the Santa Ana Region. This Order would be applicable to the project if it can be demonstrated that the groundwater being discharged to surface waters does not contain pollutants of concern (selenium and nitrates) in the discharge. However, if groundwater in the project area is found to contain petroleum hydrocarbons, solvents, metals and/or salts, the project would be subject to Order No. R8-2009-0045 (NPDES No. CAG918002). Order No. R8-2009-0045 (NPDES No. CAG918002) covers general discharge permits for discharges to surface waters of groundwater resulting from groundwater dewatering operations and/or groundwater cleanup activities at sites within the San Diego Creek/Newport Bay Watershed polluted by petroleum hydrocarbons, solvents, metals and/or salts, or nutrients, selenium and other pollutants of total maximum daily loads concern. Under both orders, permittees are required to monitor their discharges from groundwater extraction waste from construction to ensure that effluent limitations for constituents are not exceeded.	Construction Contractor	During construction							
Geology/Soils/Seismic/Topography										
GEO-1	During final design, a *Final Geotechnical Design Report* will be prepared as required by Topic 113 in the California Department of Transportation (Caltrans) *Highway Design Manual* (HDM) (May 2012 or more recent version). A *Foundation Report* will also be prepared for each bridge structure along the segment of State Route 55 (SR-55) that will be widened as part of the Build Alternatives. These reports will document soil-related constraints and hazards such as slope instability, settlement, liquefaction, or related secondary seismic impacts that may be present along the project segment of SR-55. The performance standard for this report will be the Caltrans *Geotechnical Manual* (2012 or most recent version) standards as they apply to the project features and structures. These reports will include but not be	OCTA Project Engineer, Construction Contractor	During final design and construction							

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	limited to: • Evaluation of expansive soils and recommendations regarding construction procedures and/or design criteria to minimize the effects of these soils on the construction of the project and to minimize effects related to expansive soils on project facilities in the long term. • Confirmation of potential liquefiable areas within the project limits and recommendations for mitigation. • Evaluation of the corrosion potential of soils along segments of the project alignment not previously tested. • Demonstration that the design of all retaining walls is geotechnically suitable for project area soils. • Demonstration that side slopes can be designed and graded so that surface erosion of the engineered fill is not increased compared to existing conditions. The measures recommended in the *Final Geotechnical Design Report* and *Foundation Reports* will be incorporated in the final design and project specifications. During construction, the construction contractor will implement the measures recommended in the *Final Geotechnical Design Report* and *Foundation Reports* as included in the project specifications.									
GEO-2	A quality assurance/quality control (QA/QC) plan will be maintained during construction. The QA/QC plan will include observing, monitoring, and testing by the Project Geotechnical Engineer and/or Project Geologist prior to and during construction to confirm that the geotechnical/geologic recommendations from the *Final Geotechnical Design Report*, *Foundation Reports*, and standard design and construction practices are fulfilled by the construction contractor, or if different site conditions are encountered, appropriate changes are made to accommodate such issues. The Geotechnical Engineer will submit weekly reports during all project-related grading, excavation, and construction activities.	Construction Contractor	During construction							
GEO-3	The construction contractor will be required to certify that any fill material imported to the project site is clean prior to the use of that material in project construction.	Construction Contractor	During construction							
Paleontology										
PAL-1	In the unlikely event that paleontological resources are discovered during ground-disturbing activities including excavation, the construction contractor will redirect work in the immediate area of the discovery until the find can be evaluated by a qualified paleontologist, and if necessary, collected from the field. If the find is determined to be significant and there is a potential to encounter sediments similar to those from which the fossil was recovered, the paleontologist will prepare a Paleontological Mitigation Plan (PMP) to guide paleontological mitigation for the remainder of the project. The PMP will follow the guidelines in the Caltrans Standard Environmental Reference (SER), Environmental Handbook, Volume 1, Chapter 8 – Paleontology (February 2012 or more current).	Construction Contractor, Caltrans Archaeologist, Caltrans Resident Engineer	During construction and post construction (if necessary)							

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PAL-2	If construction project plans are modified to include excavation deeper than 10 feet below the original ground surface, a qualified paleontologist will be contacted to prepare a Paleontological Evaluation Report (PER). If the PER determines that a PMP is required, the PMP will be prepared following the guidelines in Caltrans SER, Environmental Handbook, Volume 1, Chapter 8 – Paleontology (February 2012 or more current).	Construction Contractor, Caltrans Archaeologist, Caltrans Resident Engineer, OCTA Project Engineer	During final design and construction and post construction (if necessary)							
Hazardous Waste/Materials										
HAZ-1	Site investigations at the following properties that may be either partially acquired, fully acquired, or used for TCEs for the project will be initiated prior to completion of the Project Approval and Environmental Documentation (PA&ED) phase and completed during the Project Specifications and Estimates (PS&E) phase. The site investigations will determine whether more extensive subsurface investigation will be needed. If deemed necessary, subsurface investigations will be performed according to the recommendations of the assessment. The following is a list of properties that may be either partially acquired, fully acquired, or used for TCEs by the project and will require site investigations: • 2400 South Pullman Street (Assessor's Parcel Number [APN] 430-012-03) • Fetcher's Drapery Cleaning (1981 South Ritchey Street), Sunny Hills Cleaners (1999 South Ritchey Street), and Monarch Precision Deburring Co. (2011 South Ritchey Street) (all on APN 403-041-07) • 17842 Cowan Avenue (APN 427-261-08) • Area adjacent to 1123 Warner Avenue (APN 430-241-12)	OCTA	During PA&ED and PS&E							
HAZ-2	During construction, the construction contractor will remove and either reuse or properly dispose of soils, including requiring special handling, treatment, and/or disposal of aerially deposited lead consistent with the California Department of Transportation (Caltrans) lead variance from the California Department of Toxic Substances Control (DTSC).	Construction Contractor	During construction							
HAZ-3	During the design phase, the yellow traffic striping and pavement marking materials will be tested for lead and lead chromate. If hazardous materials are discovered, the construction contractor will remove and properly dispose of any materials in accordance with Caltrans *Construction Manual*, Chapter 7, Section 7-106, Environmental Hazards and Safety Procedures.	OCTA Project Engineer	During the design phase							
HAZ-4	The proposed widening along State Route 55 (SR-55) will involve the removal of minor portions of the existing bridge structures. Based on the Preliminary General Plans, items to be removed will mainly consist of existing concrete railings and bridge-mounted signs. Below is a list of bridge structures that will be modified as a result of implementation of the Build Alternatives: • Dyer Road undercrossing • Edinger Avenue undercrossing • South Tustin overhead bridge structure • MacArthur Boulevard undercrossing bridge structure	OCTA, Qualified Professionals, Construction Contractor	During PA&ED, during PS&E and during construction							

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	Qualified professionals will initiate an asbestos-containing materials (ACM) survey prior to completion of the PA&ED phase and complete the ACM survey during the PS&E phase. The survey should be conducted in conformance with the United States Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants Title 40 Code of Federal Regulations regulation, and South Coast Air Quality Management District (SCAQMD) Rule 1403. Additionally, notification of the SCAQMD prior to any structure renovation or demolition is mandatory according to Rule 1403 (d)(1)(B). In addition, based on the age of the structures located on proposed full acquisition parcel at 2400 South Pullman Street (APN 430-012-03) and the partial acquisition area of 1411 Village Way (APN 402-111-24), there is potential for ACM and mercury- and chlorofluorocarbon-containing equipment to be present in the structures. During final design, the qualified professionals will conduct an ACM survey and a survey and sampling for mercury- and chlorofluorocarbon-containing materials in the structures at 2400 South Pullman Street (APN 430-012-03) (full acquisition) and the area for partial acquisition at 1411 Village Way (APN 402-111-24). The ACM survey will be overseen by a California Certified Asbestos Consultant. The ACM survey report will provide a description of the ACMs on those two parcels, their locations, their estimated quantities, and specific requirements for removal, containment, and off-site transport and disposal of ACMs. The requirements from that study will be included in the project specifications for implementation during project construction activities. During construction, the construction contractor will implement the requirements in the ACM survey report as included in the project specifications.									
HAZ-5	Based on the age of the structures located at 2400 South Pullman Street (APN 430-012-03) (proposed full acquisition) and at 1411 Village Way (APN 402-111-24) (proposed partial acquisition), there is potential for lead-based paint (LBP) to be present in the structures on those parcels. The qualified professionals will initiate an LBP survey on the structures at 2400 South Pullman Street (APN 430-012-03) (full acquisition) and the area for partial acquisition at 1411 Village Way (APN 402-111-24) prior to completion of the PA&ED phase and complete the LBP survey during the PS&E phase. The LBP study will be conducted by trained and/or licensed professionals and will comply with the EPA, Housing and Urban Development, and California Department of Public Health guidelines. The LBP study report will provide a description of the LBP locations on the two parcels; the estimated quantities of LBP; and specific requirements for removal, containment, and off-site transport and disposal of materials containing LBP from those two properties. The requirements from that study will be included in the project specifications for implementation during project construction. The construction contractor will implement the	OCTA, Construction Contractor	During PA&ED, during PS&E, and during construction							

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	requirements in the LBP survey report as included in the project specifications.									
HAZ-6	If Alternatives 3 or 4 are selected as the Preferred Alternative, the soil sampling for pesticides on former agricultural properties will be initiated prior to completion of the PA&ED phase and completed during the PS&E phase. Soils located in the upper 5 feet of the full acquisition of APNs 403-072-02 and 403-072-01 will be collected and analyzed to evaluate the presence or absence of residual organochlorine pesticides and arsenical herbicides. The soil sampling will be conducted in general accordance with DTSC Interim Guidance for Sampling Agricultural Fields for School Sites (August 26, 2002). The performance standard for this measure complies with applicable federal, State, and local regulations regarding removal, handling, transport, and disposal of soils contaminated with pesticides. The analytical results of the soil sampling will determine the appropriate handling and disposal of the soil. During construction, the construction contractor will properly dispose of all soils exceeding the criteria for State or federal hazardous waste at an appropriate State-certified landfill facility.	OCTA, Construction Contractor	During PA&ED and during PS&E							
HAZ-7	During construction, the construction contractor will monitor soil excavation for visible soil staining, odor, and the possible presence of unknown hazardous material sources (e.g., buried 55-gallon drums and underground tanks). If hazardous material contamination or sources are suspected or identified during project construction activities, the construction contractor will be required to cease work in the area and to have an environmental professional evaluate the soils and materials to determine the appropriate course of action required, consistent with the Unknown Hazards Procedures in Chapter 7 in the Caltrans *Construction Manual* (August 2006).	Construction Contractor	During construction							
HAZ-8	A preliminary site investigation will be initiated during PA&ED and completed during PS&E on the property at 2344 Pullman Street (APN 430-012-02), which is located adjacent to the maximum limits of disturbance of the Build Alternatives. The preliminary site investigation will assess the presence or absence of impacts associated with the hazardous waste storage area observed in the northwest corner on the site.	OCTA	During PA&ED and during PS&E							
Air Quality										
AQ-1	During clearing, grading, earth moving, or excavation operations, the construction contractor will control excessive fugitive dust emissions will be controlled by regular watering or other dust-preventative measures using the following procedures, as specified in the South Coast Air Quality Management District Rule 403. • All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust. • All material transported on site or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust. • The area disturbed by clearing, grading, earth moving, or excavation operations will be minimized so as to	Caltrans Resident Engineer, Construction Contractor	During construction							

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	prevent excessive amounts of dust. • These control techniques will be indicated in project specifications.									
AQ-2	During final design, the project grading plans will show the duration of construction. During construction, the construction contractor will control ozone precursor emissions from construction equipment vehicles by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.	OCTA Project Engineer, Caltrans Resident Engineer, Construction Contractor	Prior and during construction							
AQ-3	During construction, the construction contractor will ensure that trucks to be used to haul excavated or graded material on site comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(f), (e)(2) as amended, regarding the prevention of such material spilling onto public streets and roads.	Caltrans Resident Engineer, Construction Contractor	During construction							
AQ-4	During clearing, grading, earth moving, excavation, and construction, the construction contractor will adhere to the California Department of Transportation (Caltrans) Standard Specifications for Construction (Section 14-9 [Dust Control] and Section 39-3.06 [Asphalt Concrete Plant Emissions]).	Caltrans Resident Engineer, Construction Contractor	During construction							
AQ-5	Should the project geologist determine that asbestos-containing materials (ACMs) are present in the project disturbance limits during final inspection prior to construction, the construction contractor will implement the appropriate methods to remove the ACMs prior to any ground disturbance or other construction activities in those areas.	Caltrans Resident Engineer, Construction Contractor, Project Geologist	During final inspection and prior and during construction							
Noise										
N-1	During construction, the construction contractor will be required to control noise from construction activities in conformance with the California Department of Transportation Standard Specifications, Section 14-8.02, "Noise Control." The noise level from the contractor's operations, between the hours of 9:00 PM and 6:00 AM, will not exceed 86 A-weighted decibels at a distance of 50 feet. In addition, the construction contractor will equip all internal combustion engines with the manufacturer-recommended mufflers and will not operate any internal combustion engine on the job site without the appropriate muffler.	Caltrans Resident Engineer, Construction Contractor	During construction							
N-2	Prior to completion of final design, Noise Barrier (NB) No. 3 and the combined NB No. 3 Reduced and NB No. 4 will be coordinated with the affected property owners (owners of the multifamily residences along Kenyon Drive). The property owners will be surveyed to determine if they are in favor of the noise barrier and if they are willing to donate the right-of-way to the State for construction of the noise barrier.	OCTA Resident Engineer	Prior to completion of final design							
BIOLOGICAL ENVIRONMENT										
Wetlands and Other Waters										
WET-1	Prior to initiation of construction, a permit will be obtained through the United States Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act. As part of coordination with the USACE, a Letter of Permission (LOP) will be pursued, if appropriate.	OCTA PE, and Caltrans PE, Environmental, and biologist	Prior to initiation of construction							

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WET-2	Prior to initiation of construction, either a Watershed Streambed Alteration Agreement (WSAA; in combination with an LOP) or a Streambed Alteration Agreement (SAA; in combination with an Individual Permit) with the California Department of Fish and Wildlife (CDFW) will be obtained, and any specifications in the WSAA or SAA will be implemented.	OCTA PE, and Caltrans PE, Environmental, and biologist	Prior to initiation of construction							
WET-3	Prior to initiation of construction, a Section 401 Water Quality Certification from the Santa Ana Regional Water Quality Control Board (RWQCB) will be obtained, and any specifications in the Certification will be implemented.	OCTA PE, and Caltrans PE, Environmental, and biologist	Prior to initiation of construction							
Plant Species										
No mitigation is required.										
Animal Species										
AS-1	Within 30 days prior to the commencement of any phase of construction, a qualified biologist will conduct pre-construction surveys to determine if any burrowing owls are present within the construction limits that could be adversely affected by construction activities. If the pre-construction surveys determine burrowing owls are present within the construction limits, the qualified biologist will coordinate with the California Department of Fish and Wildlife (CDFW) immediately to determine the specific measures that will be implemented regarding the burrowing owls present in the construction limits. If burrowing owls are determined to be present within the construction limits, one or more of the following measures may be required based on the coordination with CDFW: 1. Avoidance of active nests and surrounding buffer area during construction activities 2. Passive relocation of individual owls 3. Active relocation of individual owls 4. Preservation of on-site habitat with long-term conservation value for the owl	Caltrans Resident Engineer, a Qualified Biologist, Construction Contractor	Prior to construction							
AS-2	To avoid effects to nesting birds, the construction contractor will conduct any vegetation or tree (native or exotic) trimming or removal activities outside the nesting bird season (i.e., February 15 through August 31). In the event that vegetation clearing or trimming is necessary during the nesting season, a qualified biologist will conduct a pre-construction survey to identify the locations of any active bird nests. Should birds be found actively nesting in the construction limits, an exclusionary buffer will be installed where indicated by the biologist. This buffer will be clearly marked in the field by construction personnel under the guidance of the biologist, and construction or clearing activity will not be conducted within the buffer area until the biologist determines the young have fledged or the nest is no longer active.	Caltrans Resident Engineer, Construction Contractor, a Qualified Biologist	During construction							
AS-3	If during final design it is determined that construction activities will directly impact weep holes or crevice habitat, additional surveys will be required to be performed by a qualified biologist prior to construction to ascertain whether roosting bats or nesting birds are present in affected areas. If roosting bats or nesting birds are present or if their absence cannot be confirmed, a humane eviction or exclusion will be performed by a									

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	qualified biologist to avoid potential direct mortality to roosting bats or birds. The eviction/exclusion will be performed prior to construction, outside the recognized bat maternity season (April 1 through August 31) and the nesting bird season (February 15 through August 31).									
AS-4	Prior to the initiation of construction activities, nighttime surveys will be conducted by a qualified biologist during the summer months (June through mid-August) when bat foraging activity is highest and when maternity roosting occurs, in order to more accurately determine whether bats utilize the culvert structures for maternity roosting. Nighttime surveys will include acoustic monitoring and exit counts at each drainage structure that will be subject to direct impacts from project construction. The information gained from these nighttime surveys will then be used to determine the appropriate mitigation that would avoid or minimize direct impacts to roosting bats and bat maternity colonies. This mitigation may include, but is not limited to: • The eviction of bats from day roosts through the placement of exclusionary devices in the fall (September or October) preceding construction to avoid potential direct impacts to bats • Placement of alternate roosting habitat to mitigate for temporary or permanent loss of roosting habitat • Inclusion of roosting habitat in the design of the new structures • Seasonal restrictions on particular activities • Construction monitoring All humane bat eviction/exclusion techniques will be coordinated between the California Department of Transportation (Caltrans) District Biologist and the CDFW.									
AS-5	During construction, the removal of palm trees or their fronds will be avoided to the maximum extent practicable. If palm tree removal or palm frond trimming is necessary for project construction, this activity will be performed outside the bat maternity season (April 1 through August 31) to avoid impacts to flightless young.									
AS-6	All construction work conducted between February 15 and September 1 (during the nesting bird season) on existing bridges or culverts with areas of potential habitat will require the removal of all unoccupied bird nests prior to construction under the guidance and observation of a qualified biologist prior to February 15 of that year and before the nests become active (i.e., contain eggs). Removal of nests that are under construction must be repeated as frequently as necessary to prevent nest completion or until a nest exclusion device is installed (such as netting or a similar mechanism that keeps birds from building nests). Nest removal and exclusion device installation will be monitored by a qualified biologist. Such exclusion efforts must be continued to keep the structures free of nesting birds until September 1 or the completion of construction. All nest exclusion techniques would be coordinated between the Caltrans District Biologist and the CDFW.									

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Invasive Species										
IS-1	The final design plans will include specifications that species listed as having a High or Moderate rating on the California Invasive Plant Council Invasive Plant Inventory will not be planted in any revegetated areas or used in any landscaping installed as part of the project.	OCTA Project Engineer	During preparation of the final project specifications							
IS-2	During construction, the construction contractor will perform weed control best management practices (BMPs) to minimize the importation of nonnative plant material during and after construction.	Construction Contractor, Caltrans Maintenance	Ongoing during construction and operation of the project improvements							
Greenhouse Gas Emissions										
GHG-1	Landscaping reduces surface warming and, through photosynthesis, decreases carbon dioxide (CO_2). The final design plans will provide landscaping where necessary within the corridor to provide aesthetic treatment, replacement planting, or mitigation planting for the project. The landscape planting would help offset any project CO_2 emissions.	OCTA Project Engineer	During final design							
GHG-2	The final design plans will incorporate the use of energy-efficient lighting, such as light-emitting diode (LED) traffic signals, to the extent feasible. LED bulbs cost $60 to $70 each but last 5 to 6 years, compared to the 1-year average lifespan of the incandescent bulbs previously used. The LED bulbs themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the project's CO_2 emissions.	OCTA Project Engineer	During final design							
GHG-3	During construction, the construction contractor will comply with the Caltrans Standard Specification Provisions that restrict idling time for lane closure during construction to 10 minutes in each direction. In addition, the construction contractor must comply with Title 13, California Code of Regulations Section 2449(d)(3), which was adopted by the California Air Resources Board on June 15, 2008. That regulation restricts idling of construction vehicles to no longer than 5 consecutive minutes. Compliance with this regulation reduces harmful emissions from diesel-powered construction vehicles.	Caltrans Resident Engineer, Construction Contractor	During construction							